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World Food Requirements and Land Resources

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS



Contributors

Editorial Note: TAKING STOCK of requirements and resources from a world viewpoint engrosses the attention of the Winter Number as the hostilities in Europe draw toward a close and the time for reconstruction looms inevitably ahead. The problems that face this country, as outlined here, are sobering but not insoluble and the potential resources on which many of the solutions must be based are shown to be reassuring.

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JAMES G. MADDOX analyzes critically the proposed current and post-war economic programs as special assistant to the Chief of BAE.

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Growth OF THE *World Population*

By IRENE B. TAEUBER. *This brief review of the world population considers both hemispheres, all continents, many regions, and certain danger spots—notably mainland Asia. Economic and agricultural implications of population growth and declines are outlined.*



THE RELATION between the number of people and the food supply is at once the most obvious and the most fundamental of all demographic relationships. Before the seventeenth century, population size, distribution, and rates of increase within local areas were determined largely by the food which could be produced regularly within those areas. Food deficiencies and ignorance of the basic principles of diet and sanitation produced appallingly high death rates, even in normal periods. Recurring famines and epidemics tended to wipe out the natural increase of good years. Population increase was slow and irregular, but the general trend of population was upward. It is estimated that 500 million people lived in the world of 1650.

A general improvement in the conditions of living which began in the seventeenth century resulted in rates of increase unparalleled in world history. The agricultural, industrial, and commercial revolutions brought assured food supplies, public sanitation, medical science, general education, and expanding consumer incomes to an increasing proportion of the people of the Western world. The increased agricultural productivity, relative political stability, and minimum famine and epidemic controls which accompanied the world-wide expansion of the economy of the West resulted in accelerated rates of increase in the great agrarian regions of southern and eastern Asia. The world's population, which had increased to only 500 millions by 1650, increased to more than 2 billions by 1940.

Practically all regions of the world have participated in the population increase of the last three centuries, although at widely varying rates at the various time periods. The population of the Americas increased at an extraordinary rate, owing to the coincidence of heavy immigration and high rates of natural increase. The population of Africa, on the other hand, remained relatively stationary until the middle of the nineteenth century. In the three centuries between 1650 and 1940, Europe not only furnished the migrants who peopled the Americas and Oceania but quadrupled its own population. If the generally accepted estimates are valid, the population of Asia practically trebled during this period. In the recent period, rates of increase have been slowing down for Europe, speeding up for Asia.

Decline in West

The accelerated growth which accompanied the industrialization and urbanization of Western peoples was transitory. It was produced by a time lag between the decline in death rates and the decline in birth rates. The immediate effect of the agricultural and industrial revolutions was to decrease mortality, leaving relatively intact the large-family pattern which had been essential to group survival in the subsistence agrarian economies of the ancient and medieval worlds.

Gradually, however, new individual and group values developed in response to the changed conditions of working and living in industrialized urban areas. The small-family pattern became not only the ideal but also a goal realized by in-

creasing proportions of the population. Birth rates fell rapidly, at first in cities, later in the surrounding rural areas.

Demographic transition from high mortality and high fertility to low mortality and low fertility is well advanced in the nations of Western civilization. Within a generation, relative stability or actual decline will characterize the populations of all the economically advanced industrial and urbanized nations, including all Europe except the extreme east and south, the United States, Canada, Australia, New Zealand, and the white population of the Union of South Africa. But taken together, these nations include less than one-fifth of the world's population.

Areas well advanced in the demographic transition from high fertility to low fertility, but with a potentiality for substantial growth for at least a generation or two, include the Soviet Union, Japan, eastern and southern Europe, and parts of Latin America. These regions contain another fifth of the world's population.

Areas of the world in which population growth will probably cease within the present century include less than 40 percent of the world's population. With the major exceptions of Japan and Soviet Asia, they are limited to Europe, the Western Hemisphere and Oceania. They are either already industrialized and urbanized or in process of rapid industrialization and urbanization.

Increase in East

The potential growth of the great agrarian regions of Asia and Africa stands in striking contrast to the

New Fields

It is characteristic of Science and Progress that they continually open new fields to our vision.

—PASTEUR

slowing growth and incipient decline now characteristic of the Western industrial regions. During the last century or so, the peoples of India, Java, central Africa, and the world's other colonial areas have tended to increase at an accelerating rate. Western penetration has meant relative political stability, the extension of agriculture, and minimum standards of epidemic control and famine relief. If such penetration has been economically and culturally "enlightened," it has attempted to leave intact the values of the native cultures, while utilizing native laborers as producers or processors of raw materials for the export market. Thus mortality is controlled, but barriers are placed against the development or the diffusion of the standards and values that might limit fertility.

Numerical increases brought by the limitation of mortality in Asia and Africa cannot be measured precisely because of the deficiencies in both census and vital-statistics records. The generally accepted estimates indicate that Asia outside the Soviet Union had a population of 916 millions in 1900, and 1,184 millions in 1940—an increase of 29

percent in 40 years. Although an increase of more than 250 millions in less than half a century is great in quantitative terms, the rate of increase was fairly slow. The population of India grew at the rate of 1.4 percent per year between 1931 and 1941, producing a net increase of 50 million people and the average annual percentage rates of increase between the most recent censuses were 1.4 for Burma, 1.2 for Korea, 2.2 for the Philippine Islands, and 2.4 for Formosa.

Illustration

The demographic history and the prospects of Formosa illustrate in miniature the population problem of the overcrowded regions of the world in which the demographic transition which accompanies industrialization and urbanization is still to occur. The Japanese conquerors maintained the native Chinese people in relative isolation from the outside world, with minimum possibilities for individual or group cultural and economic advancement. Their function was that of labor in a commercial agriculture that was to assist in eliminating the dependence of Japan on foreign sources and to contribute to its foreign exchange.

Rational exploitation of the agricultural possibilities of Formosa was necessarily accompanied by the development of public sanitation, compulsory vaccination, malaria control, and public health. The result of this policy was that death rates declined from 33 per 1,000 population in 1906-9 to 20 in 1935-37, while birth rates fluctuated irregularly between 40 and 45 per thousand population. As a result of the coinci-

dence of declining mortality and stable fertility, the population of Formosa increased 93 percent in the 35 years between 1905 and 1940, 13 percent in the 5 years between 1935 and 1940. Obviously no population inhabiting a limited and already densely settled area, and dependent on agriculture, can reproduce indefinitely at this rate.

Determinants

The problem of estimating the future population of Asia or Africa is not answered by a consideration of the theoretical possibilities for growth. Rather, the rate of increase will be determined by the food, knowledge, and medical facilities available for the support and preservation of population. Given relative stability, the continuation of agricultural improvements, basic epidemic and health protection, and the availability of famine relief, the acceleration of the rate of population increase might continue for another generation or so into the future. Eventually, however, stability of population must be achieved in the East as in the West. Whether it will be achieved through declines in fertility or through increases in mortality depends on the nature of the social and economic life of the future, not on demographic factors narrowly conceived.

Implications for Agriculture

Agricultural overpopulation and the pressure of population on the land are decreasing problems in the demographically advanced nations of the West. But aging or aged populations present many new types of adjustment problems to national or world agriculture. The types of

food required and the elasticity of the demand for many foods shift drastically. Diversification and specialization of production must replace expansion of the great stable crops. If the general problem of maintaining a dynamic economy with a declining population is not solved, then the agriculture which is an integral part of the market economy will suffer because of the depressing effect of slow growth or decline.

A slowing growth of Western peoples is a fact to which agricultural population and agricultural policy must be adjusted. The future growth of population in Asia, Africa, and many lesser areas of the world, however, is related directly to the improvement of health conditions, the increase of agricultural production, and the development of facilities for trade. National and international policies with reference to the production and distribution of agricultural commodities will have a direct influence on the rate of population growth. In the advanced nations of the West, agricultural production is to a large extent a dependent variable. In the East, it is one of the major independent variables, whereas population growth is chiefly a dependent variable.

Local Difficulties

Population increase may continue to be rapid in Africa and the agrarian regions of Latin America, but no real problems of population pressure need develop. Potential resources of both continents are sufficient to care for any growth that is likely to occur during the demographic transition which will accom-

pany the industrialization and modernization of economies. Certain local areas of acute overpopulation may present difficult local problems. The dense population of the valley of the Nile may have to be dispersed over a wider area, but space is available for such dispersal. Population problems may be difficult, but they are not insoluble.

Industrialization

In Asia the situation is quite different. Here the basic agricultural resources may be sufficient to provide a permanent minimum subsistence for the existing population if cultivated areas are extended, irrigation is expanded, and techniques of production are improved. There is no possibility for minimum living within agriculture for the increased population that would result from the introduction of the agricultural improvements necessary to provide a decent living for the existing population. Permanent solutions to the problems of population pressure in the overcrowded agrarian regions of Asia are impossible without industrialization. If industrialization occurs and if population growth follows the patterns it has followed in Europe, America, Oceania, and Japan, fertility will fall as urbanization and its correlated habits of living and thinking affect increasing proportions of the total population.

An introduction of industrialization sufficient to initiate the demographic transition from high to low fertility in Asia will probably occur, but this probability offers no basis for easy optimism as to the future. If mortality falls as rapidly as it has in other areas, and the process of

diffusion of the small-family pattern from the city to the countryside proceeds as slowly, the differential between a rapidly declining mortality and a slowly declining fertility could produce huge populations. The theoretical potentialities for growth may be illustrated by a simple calculation. If the declines in mortality and fertility in China should duplicate those of Japan in its period of industrialization and urbanization between 1870 and 1940, China alone would have a population of more than a billion people by the year 2,000.

Major Problem

Mainland Asia will offer the major population problem of the world during the coming decades. Expressed in its simplest terms, it is a race between the expansion of agricultural and industrial productivity and the accelerated rate of population growth due to declining mortality. The real demographic need in Asia is to devise ways by which the diffusion of the small-family pattern among the peasants may be quickened. If that diffusion occurs through the slow process of diffusion from the cities to the countryside, truly incredible increases in agricultural and industrial productivity would be required to provide minimum levels of living for the increasing populations. If such increases were not forthcoming, mortality could not continue its downward course. Thus the education and social enlightenment of the rural peoples of Asia are essential elements in the solution of the economic and demographic problems of the continent.

DISTRIBUTION OF *World Land Resources*

By JOHN F. TIMMONS. *Extent of boundaries is shown to be of less real consequence to nations than the nature of their land and the forces that influence its best use, for ready access to a sufficient supply of food is the key need of all nations.*



IN HIS RECENT book, *The Time for Decision*, Sumner Welles uses agricultural land resources as one of the criteria for his recommended partition of the Third Reich. Two deductions that are significant of future events may well be drawn from Mr. Welles' analysis. First, it illustrates the profound importance commonly attached to the distribution of land resources in the alignment of national boundaries and in the stability of peace. Second, it suggests a fundamental and widespread weakness in reasoning that land resources can and should be divided among all the nations of the world in an equalitarian way.

Cursory examination of the nature of land resources gives a clear hint that the objective outlined at Hot Springs by the United Nations Conference on Food and Agriculture, "secure, adequate, and suitable supply of food should be a cardinal aim in every country," cannot be accomplished merely by a division of physical land resources among all nations. The problem is much more complex. To attempt to distribute land resources among all nations and partitions of nations without regard to location and irrespective of

the economic and social forces that influence their utilization is an invitation to future trouble. Versailles and international experiences during the interwar period have furnished illustrations.

Further inquiry into this problem suggests that the key to a secure, adequate, and suitable supply of food becomes one of *access* to the products of land regardless of where the land may be located or in whom control may now be vested. In support of this conclusion, the natural distribution of land resources and the economic and social forces affecting their use do not permit them to be divided among nations in proportion to population. Furthermore, the distribution of land resources and the products of land among individuals within a nation appears to be perhaps more important than the distribution among nations and is certainly more difficult to work out internationally.

In a strict economic sense, land is defined as space and situation. It includes all the natural forces—sunshine, rainfall, temperature, topography, fertility—accruing to those in control of a particular area. Agricultural land resources, and for purposes of this article particularly

those used for food production, include particular land areas and the appurtenant natural forces influencing the production of foodstuffs.

Although the physical supply of land—space and situation—is fixed and cannot be changed by man, the economic supply—that serving human needs—is flexible and changes in response to the need of the products and services derived from it. Thus the economic supply of land producing foodstuffs is continually changing in response to different quantities and kinds of food demanded by man. Through land reclamation and technological and transport improvements the economic supply is increased. Through deterioration, abandonment, and shifts to other uses it is decreased.

Physical Distribution

Physical forces fix the limits of land use. In large measure they determine whether or not a given area of land serves a useful purpose, or is merely so much worthless space, as the ice fields around the poles. Within varying degrees, food production must conform with the natural environmental forces.

Fortunately, lands capable of producing essential food crops are more widely distributed throughout the world than are other kinds of natural resources—petroleum, iron, coal, phosphate, copper, nitrate, etc. Food production in varying intensities and kinds is being carried on in every country. These pursuits vary from nomadic herding in Central Asia to highly mechanized grain farming in Kansas. In terms of living standards, food production

varies from that of the meager subsistence of the Central African primitive tillers to the high standard of the prosperous Corn Belt farmers.

Available

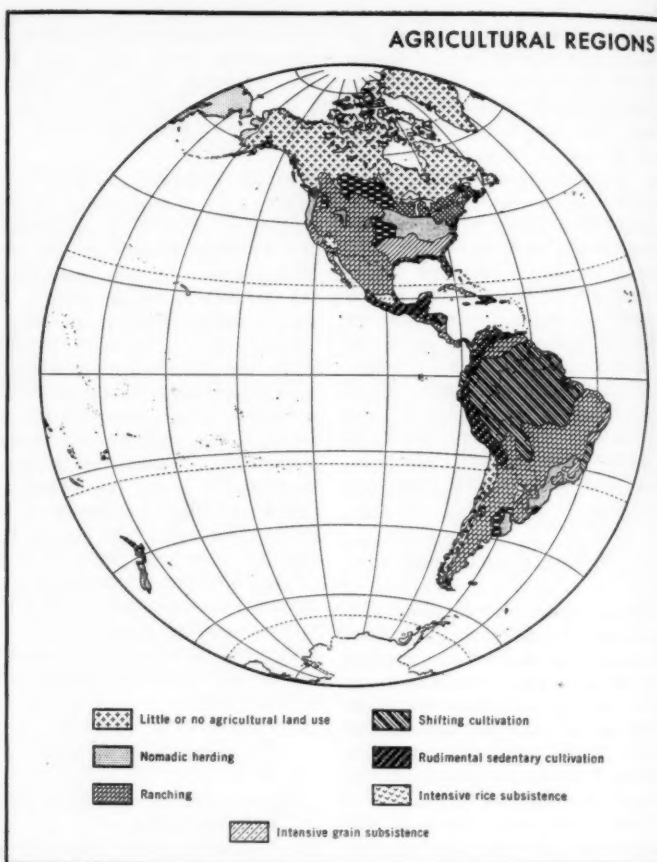
Rough estimates show about 4 billion acres of arable land, roughly 12 percent of all land, upon which the world must depend for food. This is scarcely 2 acres for each of the world's 2 billion people. In some countries there is less than 1 acre per person despite the estimate of certain nutritionists that $2\frac{1}{2}$ acres of fairly productive land are needed to produce an adequate diet for one person. The quality and productiveness of food-producing lands vary greatly from one region to another. Only about one-fourth of the world's arable land is first-class and it is unequally distributed.

The influence of physical forces upon land use does not fit into any type of national pattern. This influence is reflected in the density and growth of population among the several nations.

Economic Determinants

Physical forces set the ultimate limits of food production but economic factors are fundamental in determining land use within these limits. Because national and international policies have not permitted the observance of essential economic determinants, the world's land resources are not now geared to providing adequate and healthful diets for all of the people. This indictment is doubly significant in light of the availability of modern methods of production, transporta-

AGRICULTURAL REGIONS



tion, storage, and marketing which would bring forth adequate food for all. In the Orient, famine still claims the lives of many people while national policies in other parts of the world may be regulating downward the production of food. Even in countries like the United States, where food is seemingly plentiful, many people remain underfed

and many suffer from serious nutritional deficiencies.

Basic to organizing world land resources for adequate food production is a consideration of the demand for foodstuffs. We do not have an exact appraisal of the needs for particular foods. A start toward a good estimate was made at Hot Springs. Since then it has been



- | | |
|--------------------------------------|---------------------------------|
| Commercial farms and plantations | Commercial livestock and crops |
| Horticulture, field crops, livestock | Subsistence crops and livestock |
| Commercial grain farming | Commercial dairy farming |
| Specialized horticulture | |

estimated that if the United States, for instance, achieves the proposed dietary standards, our consumption will increase substantially. We will consume, in broad terms, 40 percent more milk or its equivalent and 70 percent more fruits and vegetables than in 1941—our last pre-war year.

Considering world-wide dietary

deficiencies, in kind and quantity of food, in terms of the Conference standards, the potential demand is tremendous. To satisfy this demand would bring new lands into use and would force a more intensive use of those already in cultivation.

In gearing food production to world demands it must be kept in

mind that land productivity depends largely upon the amount of labor and capital expended upon it. When increasing total production, we must always make the choice of using additional areas or of using present food lands more intensively, or both.

Margins of Use

The margins of both extensive and intensive land use are determined according to the law of diminishing returns at that point at which an additional input of labor and capital fails to return an equivalent of product.

Because of the unequal distribution of land resources among nations we find people in heavily populated countries, like India and China, lavishing labor upon limited land areas with approximately subsistence or even starvation levels of production. In areas that are sparsely populated, like Australia, labor is used sparingly and land is used lavishly. Equalization of access to food products through world-trade arrangements would bring a better proportioning of land, labor, and capital with a greater net product out of the land for all.

Distance

Distance from market can construct as great a barrier to the use of land as can a harsh climate or poor soils. Distance helps to explain why rich farm lands in Alaska and Brazil, for example, have not been more fully developed.

As transportation improves in speed, quality, and cost probably distant lands will be brought within the range of markets. The wartime impetus given to the cargo

plane, the transport truck, the ocean-going vessel, and the new methods of food processing and preservation will have a tremendous effect in overcoming distances and in bringing remote lands of the world into economical reach of the world's leading markets.

Comparative Costs

Production of foodstuffs should gravitate to those areas where they can be produced with the least cost. This is a common-sense rule of maximizing production with the least effort. The Hot Springs Conference recognized this principle when the representatives of the United Nations agreed that "The inherent, natural and economic advantages of any area should determine the farming systems adopted and the commodities produced in that area." One of the acid tests of the success of this and food conferences yet to be held, is the degree to which this principle is applied.

If the interchange of products were unimpeded by such obstacles as tariffs, embargoes, monopolies, and cartels, the entire world would benefit, for each country or area would be able to specialize in the product in which it can attain the lowest cost of production consistent with quality of product and an adequate level of living. If some areas are superior to others in the production of many products, the less productive areas should be permitted to produce the product that involves the least disadvantage. In this way each area throughout the world would tend to produce those products for which its ratio of advantage is greatest. In turn, each nation would import those products

for which its ratio of disadvantage is greatest. Only by all nations working together and giving full recognition to these fundamental laws of land utilization can universal freedom from want of food ever be established.

Social Problems

The core of land-distribution problems, both among and within nations, is seeded with maladjustments in access to the use of products of the land. Struggle for possession and control of land resources has always been an influential cause of war among nations and revolution within nations.

Since control over land, frequently in the form of ownership, has in practice become almost tantamount to the enjoyment of the produce of land, individuals as well as nations without this control are in various degrees denied the use of land and its products. Among nations, these exclusions have taken the forms of immigration restrictions, tariffs, cartels, embargoes, and other restraints of international trade and migration. Within nations and their colonial possessions these exclusions have been molded into the law and

custom of caste and race discriminations as well as in credit, marketing, freehold, leasehold, and laborer arrangements among citizens in the occupancy and use of land and its products.

Germany developed its lack of access to land resources into an argument for aggression. *Lebensraum* became the keynote of this argument. Italy used similar excuses for its conquests in Africa. Japan used them in regard to Manchuria. But at the same moment that the so-called have-not countries were crying for more land resources, they were frantically increasing their population through various kinds of birth incentives. Their past arguments were obviously spurious but they may serve as a warning of the dynamic character of land-resource maladjustments among nations.

Explosive

Of all the social issues from which wars and revolutions spring, few are more universal and explosive than those arising out of the use and control of land. Contrary to Marxian teaching, the world's revolutions have been bred and born in

Motivations

Great acts grow out of great occasions and great occasions spring from great principles, working changes in society.

—WILLIAM HAZLITT

rural peasant countries, not in highly industrial nations. The first revolution in Russia, the Mexican revolution, and the struggle of the Irish peasants are a few examples that substantiate this viewpoint. All of these disturbances grew directly from the land issue in rural countries. Even in the United States we probably came closest to internal strife, during the recent depression, in rural areas where some farmers flouted the law and intimidated judges to keep their homes and farms from being foreclosed.

Potentialities

The earth is still a potential Eden with adequate room and food resources for additional millions of people, if need be. Modern technology, transportation, and food processing have reached the stage where it is physically possible for adequate food to be made available to all of the world's present population. The main problem which confronts us is to work out ways and means for the realization of these potentials.

In achieving "food for all," the Food Conference recommended, as a first step, "that each nation undertake (a) to survey its land and water resources to determine (1) in what areas, if opened to settlement, production of food could materially be increased; (2) what areas, if supplied with additional production facilities, such as water supply for irrigation, improved drainage, or by the correction of deterrents to production, could materially increase their production of food; (3) the kind, extent, and economic possibility of developments necessary for this increase in food production."

Following the physical and economic determination of the areas throughout the world where the several foodstuffs may be produced under least disadvantage, if the represented nations are to reach their goals every effort must be made to facilitate the interchange of commodities among nations and between individuals within nations. Human nature as well as nature must be brought under rational control if food is to be available for all able and willing workers throughout the world. Motivation will be the provision for access to the products of the world's land resources among all peoples as these resources are and will remain unequally distributed and as food is essential to life itself.

Among nations, trade agreements, exchange systems, interchange of technical knowledge, and all possible means of international cooperation will further a better distribution of foods. The International Monetary Conference held at Bretton Woods is one step in this direction. Within nations, just tenure arrangements for those on the land and adequate employment conditions for those off the land, if geared to an economy of plenty of food and equal advantage for all, will send us toward the goal. The measures will not be easily achieved. Progress comes slowly; sometimes advance is discouragingly slow. But we must make sure our slow steps are in the right direction.

Land-resource problems will call for consideration and practical solutions at the coming conferences relating to the peace. For nations and people without access to the produce of the lands of the world would continue to constitute a latent and genuine threat to a lasting peace.

Population AND Land Resource Relationships

By CHARLES L. STEWART. *A little-known Polish formula for figuring these relationships may be refined for use in solving some post-victory problems.*



THE TIMES have brought a new focus of interest upon the balance between man and land.

Mankind has too often multiplied where natural resources are narrow and unbalanced man-land ratios are still developing. Consequently, additional attempts may be made to win "living space" by force. For that and other reasons more foresighted attention should be directed to the complex relationships between the population and the land.

Basic to an understanding of this problem on its economic side is the development of better indicators of the existing man-land relationships. We may take as examples the man-land ratios of two countries. In England there are 1,090 persons (farmers and nonfarmers, rural and urban) per 1,000 acres of all land, and 65 farmers for the same area. In Norway, per 1,000 acres, there are 40 persons (farmers and nonfarmers) and 14 farmers. If the figures for farmers could be computed on a basis of full-time adult male workers, the gap between 65 for England and 14 for Norway would be narrowed.

There is need for getting away from averages that include land of

all kinds. An acre is not merely a geometrical figure but a bundle of productive capacities of varying economic significance. Where an acre of land in one country or district is equivalent in value or in productive power to 5 acres in another country or district, that should be recognized in formulating indices of man-land relationship.

This problem was attacked on a many-nation basis by J. B. Goodson and Ellsworth Huntington at the International Congress of Geographers, 1938, and shortcomings of the methods tried out were reviewed in a contribution by C. J. Robertson, of the International Institute of Agriculture, to the League of Nations European Conference on Rural life, 1938.

In some respects one of the most original of the approaches to a rating of land in agro-forestry uses for specific practical purposes is what will be called here the "statistical acre." First given currency by W. Staniewicz, of Poland, it began to claim the attention of leaders of organized farmers in Continental Europe about 1936. As the proceedings of the International Confederation of Agriculture have not been published in English there has

been delay in bringing knowledge of this statistical device to the United States.

Original Object

Before stating how the formula is worked and with what results in some cases, it is only fair to point out that the original object in developing it was to form better judgments as to how large a load of farm people certain tracts and types of land should carry. Problems of agricultural overpopulation were disturbing several countries and rural unemployment was causing concern.

There followed some excellent but little-noticed demonstrations of the use of the statistical acre as an aid in the better understanding of the relation of men to land. Staniewicz, Antoniewski, and Poniatowski, of Poland, Borel, of Switzerland, and others who joined in the use of the new statistical approach have worked out a tool that will probably have post-war uses in Europe and, with further refinements, in other countries.

How It Works

Under the statistical-acre approach ordinary plowland is rated at par, and lands in other farm and forest uses are rated either above or below par. An acre of forest land is 15 percent; permanent pasture, 20 percent; hay or meadow land, 40 percent; and an acre of garden land is three times an acre of plowland. To compute a rounded figure for a country or district, all plowland is counted at its regular number of acres; that is, ordinary plowland acres are statistical acres without

change. To this are added for each type of other farm land, not the full acreage as a survey might show, but the number of statistical acres the Staniewicz formula yields. In Norway the total of statistical acres is only 7 percent as large as the total area of all kinds of land in the country, while in Hungary the corresponding percentage is 76, the highest for any European country.

Actually

What do we have here? At the least we have a consolidated expression of how farmers have found various tracts of land actually usable. The main types of land use indicate different degrees of labor and capital intensity. Of course, apart even from horticultural uses some plowland is more intensively used than other plowland. The same goes for some hay land or land in any other kind of agro-forestral use.

In other words, there is still plenty of crudeness left in any unweighted rating plan that is as simple as this. Nevertheless, it takes a step toward recognizing the fact that, apart from market prices for land and apart from yields of products from land, something may be gained by noting the varying power of land to induce farmers to devote it to the uses which their economic sense dictates.

Polish economists have differed among themselves as to whether 15 or 20 farm persons per 100 statistical acres represented a saturation point for their country before the war. They were in agreement that the formula used for getting away from unweighted areas was at least provisionally helpful. The present writer does not claim more for it.

Thus far we have applied this land-rating plan to get a rough index of the farming usability of land. It is possible also to substitute statistical acres for total acres in agro-forestal uses in the usual type of man-land indices.

Revised Picture

For example, in most of Europe west of Russia, about 20 acres of land in all agro-forestal uses have been assumed to be available to each person employed in agriculture, but this becomes 10 when expressed as statistical or plowland acres.

In Finland, Sweden, and Norway, where figures are relatively high (for Europe) on either basis, the index is from one-fourth to one-fifth as high when reduced to statistical acres as when unweighted. In Roumania and Yugoslavia, where the figures are relatively low on both bases, the index is cut to about half. In Finland, the area of land in all agro-forestal uses per farm-occupied person is 17 statistical acres, as compared with 79 unweighted acres; in Roumania and Yugoslavia, 2 compared with 4 acres. Thus, instead of showing the Finnish farmer with 20 times the acreage of the farmer of Roumania and Yugoslavia, the new basis shows him with between 8 and 9 times as much.

Trials

Europe west of Russia has diversity not only among countries as a whole but among the districts of each. The balance between farming personnel and farm-land resources is more regular than the old-style unweighted indices would suggest. The formula, when applied to all Russia (Siberia as well as

Commonalty

What was once for the few must now be for the many.

—MARK VAN DOREN

European Russia) shows 15 statistical acres per farm-occupied person, compared with 50 unweighted acres in agro-forestal uses. When the formula is considered for use outside of Europe and Siberia, an examination of statistical reports shows that only seven countries have published their facts in such a form that they can soundly be given even a trial use. These are Japan, Chile, Australia, New Zealand, Canada, Mexico, and the United States.

In Japan a high percentage of the land is in agro-forestal uses. Japan's percentage before the conquest, 85, is to be compared with 62 in New Zealand, 54 in Mexico, 51 in the United States (farm woodland being the only forest land included in our census), 31 in Australia, 26 in Chile, and 7 in Canada. Japan's percentage of land in agro-forestal uses, 85, is slightly less than that of Finland (90), Germany (89), and Denmark (86), and only slightly above that of Italy (83), Belgium (80), Spain (78), and France (77).

Plowland (statistical) per farm-occupied person in Japan is 2.3 acres, as compared with 5.3 acres of agro-forestal land, unweighted. The average farm-occupied person in Japan, therefore, has about a fourth as much land (plowland basis) as the average European west of Russia.

Japan falls below all European countries except Yugoslavia, in terms of statistical acres, but would out-rate not only Yugoslavia, but also Bulgaria and Roumania, if the index counted all land in agro-forestal uses alike. Comparable statistics have not been made available for other countries of Asia.

Mexico and Chile are the only Latin-American countries for which usable statistics are found. Chile, with 27 plowland (statistical) acres per farm-occupied person, has a figure nearly three times, and Mexico, with 17, has an amount nearly twice that of Europe west of Russia.

The number of plowland (statistical) acres per farm-occupied person is largest in Canada (58) and next largest in New Zealand (52). Next come the United States (44)

and Australia (42). These figures run from four to six times as high as in Europe west of Russia.

Differences

The index used in this article is statistical acres per farm-occupied person. It differs in three respects from the index employed in another article in this issue of *Land Policy Review*. Farm-occupied persons are not identical with the agrarian population. All people in the agrarian population are not "active" in their contribution to agro-forestal enterprises—some are too young, some too old, others not field and barn workers.

On the other end of the equation, the acres used are generally not weighted to a plowland basis but

Answer

In these great moments ours is really a peoples' war. No American soldiers, on the European continent need ask, "what are we fighting for?" He knows, because he sees, in the frantic jubilation of the people, that he, GI Joe, is the courier of happiness, freedom, and hope, the breaker of shackles, the avenger of insult and humiliation, the restorer of faith, the liberator of mankind. . . . We march together, every Ally doing his task, as it was prepared, each according to his means, every day bringing each a triumph, and all sharing it, with new Allies springing out of the very ground, wherever our soldiers tread.

—DOROTHY THOMPSON
The Bell Syndicate, Inc

taken without weights, or, if land in some agro-forestal uses is omitted, that which is retained is in some specified plowland uses, as when devoted to certain kinds of field crops.

A third difference lies in the way the relationship is expressed. If there are 10 persons per hundred acres, one can also say there are 10 acres per person. The tendency in this article is to standardize on the number of acres (statistical) per farm-occupied person. Thus, there has been an effort to refine the figures at each end of the ratio and make the final expression one, not of persons per unit of area, but of units of area per person. For certain purposes, it would be just as logical to reverse the latter practice.

Heavy emphasis shown here on the farm-occupied person as the unit of reference is a reason for desiring better statistics on the farm-occupied population than most countries have provided.

Limitations

When the Staniewicz formula is applied outside of its original reference area there is need for enlargement and adjustment. Shall cropland reported in ex-European countries as idle, fallow, and failure be counted as plowland? In the provisional figuring reported here it was counted as 40 percent. As woodland is operated much less intensively outside of Europe, a woodland acre is counted as $7\frac{1}{2}$ percent of a plowland acre, rather than as 15 percent as Staniewicz provided.

Farm-economic areas of at least three grades are suggested by these samples. Japan and certain countries of southeast Europe show extremely small plowlands per farm-

occupied person. Canada, the United States, Australia, and New Zealand show extremely large amounts. Chile, Mexico, and some countries of western Europe occupy upper medium positions and other countries of Europe lower medium positions.

In countries of high mechanization of field and barn operations plowland may absorb relatively little labor time per acre in relation to the labor time per acre devoted in other countries to pasture or hay. The writer makes no claim for the universal validity of the original ratios. When tried out as between farming-type areas and counties of a single state some incongruous results at times confront the statistician who tries to bring over the Polish formula intact.

Observations

In the first place, it is desirable to have a basis for comparing continental or other regional situations. Accuracy is as essential in a telescope as in a microscope but to a different end. There is need for a developed index of land situations taken in the large.

The second observation is that plowland, although not the same overseas from Europe as in Europe or behind one tariff wall as behind another, tends to be more fully in competition and to be closer to other plowland in its capacity to serve local and world markets as time progresses. Technological improvements in overland transportation are an example of one type of influence in this direction. Cheap water transport unites overseas land areas in the economic sense. Holding to plowland as a kind of datum

line, whether in Australia, in Japan, or in some country with a land situation known to fall in between, may be even more warranted if international economic collaboration becomes more thoroughly established.

The above is stated on the assumption that it may be practicable in the near future to apply census methods to obtain world data on the use of land. More detailed ratings than a census gives should be made in all countries for land in each of the major use classes, utilizing experience already had in some countries. Standards for detailed ratings of plowland or land in other use classes throughout an area as large as Europe west of Russia or mainland United States have been difficult to make acceptable. The movement toward detailed ratings, although it may logically follow the more over-all approach here described, should neither impede nor be impeded by the less detailed approach.

The amount of plowland and plowland equivalent per farm-occupied person has meaning to local people in all areas except those devoted exclusively to pastoral or timber operations. For it to be implied that plowland is plowland wherever found is not strictly accurate, of course, but it would be hard to find a more understandable base concept.

Coming Necessity

As the war comes to a close there will be need for more information about the world's land, about its quantities and especially its qualities, and about the way it stands in relation to its users.

For the better understanding of how land resources and the farming

Preparation

What is past is prologue.

—SHAKESPEARE

population are balanced in country after country, the collection of sound statistics on land use is a proposed need. The United Nations Food and Agricultural Organization may make possible a third world agricultural census, which, in land-use statistics, will be better than the pioneering efforts.

In the next few decades a critical question will be whether a moderated rate of population growth will come about in countries which have had a tendency to overpopulate in relation to their natural resources. Will the next century see man-land ratios as revealed by adequately refined indexes moving away from the extremely small and the extremely large figures now characteristic of important groups of countries?

Open Door

In international economic collaboration looking to reduction of strains in the world structure an eye kept on the shifts in man-land ratios can be helpful. To that end much use can be made of comprehensive census data taken at comparable dates. The results should be used with well-considered weightings so as to obtain indicators of significant man-land relationships. To the refinement of these indices the Staniewicz formula has opened a door.

Food for First Aid

By ROY F. HENDRICKSON. *Recently returned from visits to Europe and the meeting of the UNRRA Council at Montreal, the Deputy Director General of UNRRA was asked to outline what the food relief needs would be during liberation and just after the war.*



EVERYONE in the United States today who reads the papers, looks at the picture magazines, or goes to the movies knows there is a food relief problem across the ocean—no matter which ocean you face. Most people are deeply concerned over the want and distress of the human beings who have suffered through 4 or 5 years of total war and total occupation. Everyone believes these victims of enemy occupation, these allies of ours, should be helped. Almost everyone wonders if the job can be done.

First of all, 44 allied nations have pledged themselves to share in the job, and have signed the international agreement which set up the United Nations Relief and Rehabilitation Administration—or UNRRA—as their operating agency for this purpose.

No one country is expected to provide all the supplies. In addition to food the occupied peoples will need clothing, medical supplies, and equipment for agricultural and industrial rehabilitation—machinery repairs, seeds, fertilizer, tools, and many of the simple necessities. These supplies must be produced in many countries, the task shared by many. The supplies that are scarce must be allocated among the liberated countries according to relative need.

When UNRRA was set up, the united and associated Nations that had not been occupied by the Nazis agreed to give 1 percent of their national income for use in relief and rehabilitation in liberated areas. In this country the 1 percent comes to \$1,350,000,000. That happens to be

the amount this country spends for each 5 days of war. Congress has passed an act authorizing that amount to be appropriated and it has appropriated \$800,000,000 for the purpose to date.

Many here ask, "How much food will it take?" In some ways that's a little like asking, "How long is a rope?" The element of doubt hinges, of course, on the lack of absolute knowledge of what conditions will be when the Nazis are driven out—how much food they will take out of the country and how much scorching they will have time to do; and later, what the Japanese will do in Burma, China, the Philippines, and other points east.

Careful estimates have been made of the requirements of each liberated, or about-to-be-liberated, area.

No threat of torture and death at Nazi hands could entirely silence the occupied peoples of Europe—they never admitted defeat, always kept alive the dream of liberation and planned for it. At tremendous risk, they succeeded in getting information out to their governments-in-exile about what conditions actually were. These estimates of requirements are flexible, since they are keyed to various sets of assumptions. They can, in the light of actual conditions, be adjusted up or down. During the last few months I have talked in detail with representatives of these Governments, both in Washington and in London, about the situation likely to be met. Here are some of the truths which are emerging.

Emerging Truths

To begin with, the situation is very uneven. Hitler had to keep the agricultural machine going because he had to keep his vast war machine fed. He had to make up for raw materials once imported but now kept out by the sea blockade. Occupied Europe was forced into a relative self-sufficiency, and this meant that detailed attention had to be given to the agricultural program and to the distribution of food.

For the most part, the dairy herds of Western Europe have not been reduced beyond early repair. Production per cow was cut, but can be revived fairly rapidly if feeding stuffs can be imported. This appears to be possible but very difficult because of limited shipping in the early stages. It is unlikely that any overseas importation of livestock will be necessary.

In Denmark and Holland—highly important dairy-export countries before the war—cow numbers stand at above 70 percent of pre-war. Norway is reported to have more than 90 percent of its cow numbers. France is said actually to have increased the numbers of cows and heifers. Belgium has been hard hit because before the war it had to import half of its food. With imports cut off and with a very heavy population load to carry, Belgium had to plow up pasture land to make room for direct-consumption crops and this in turn reduced the size of the dairy herds sharply.

In areas of Eastern Europe, where much of the agriculture is at a subsistence level, the loss of a cow was a major tragedy. A farmer made every sacrifice to save his animals. The peasant, if not scientific, was always thrifty because he had to be, and now with the very lives of his family dependent on the food he raised, he shepherded every smallest resource.

Dominant Deficiency

The greatest blow to maintenance of dairy herds was the loss of protein feeds. Much of this in Europe came normally from the crushing plants which imported vast tonnages of oilseeds to help make up for Europe's inability to produce the fats and oils needed in normal times. Hitler helped some to offset wartime losses of oilseeds and lard by greatly increasing the production of sunflower seed and rape seed, but the shortage of fats is the Number 1 food deficiency in Europe now.

Hitler increased the production of potatoes; in fact, potatoes became

more than ever the staff of life in many occupied areas. It is estimated that per capita consumption exceeded 200 pounds per year in every country outside of Southern Europe, reaching as high as 300 pounds and more in Norway and Poland. The lowly spud, eaten skin and all, contains many valuable minerals and vitamins—even the precious vitamin C so hard to get when no fresh fruit is to be had. But with little fat to cook them in, potatoes in excess quantities can become mighty dull to the palate.

Score Sheet

On the whole, agricultural Europe has had pretty good crop weather. Moreover, in swift mechanized warfare where armies covered many miles a day, there was often not much destruction off the highway. Farm buildings and equipment are not often military objectives—they are casualties of war only when they happen to be in the way of an intensive phase of war. I am not forgetting the areas where fighting was bitterest and the Nazis took deliberate revenge by burning and laying waste the land, nor am I overlooking the areas around cities that went through a blighting period of siege. Those are the blackest spots. They must not be overlooked or underestimated. But they are no more typical of the whole picture than are the abundant acres of Normandy on the other side of the score sheet.

Basic Needs

The five basic relief import food needs in Europe are fats and oils, animal proteins, wheat, sugar, and processed milk. The supply situa-

Decisions

Social order itself requires laws and rules, but in a democratic society these commands are expressions of popular opinions matured into decisions and accepted in the light of such reason as we can command.

—CHARLES A. BEARD

tion on wheat and other cereals is good, with the world supply large. The shortage in animal proteins can be alleviated in part by adequate supplies of vegetable proteins—chiefly dried beans and peas. Europe's chronic shortage in production of fats and oils is going to be hard to meet. Full advantage will have to be taken of every temporary and seasonal surplus in the supplying countries before the pinch in these commodities can be eased.

Military First

From the beginning of UNRRA, it was decided that the Military should have full planning and supply responsibility in a newly liberated area for approximately 6 months. After that, if the Government in control wished it, UNRRA would go in to help with the relief job. Food for the first needs will thus come from Army stockpiles, and UNRRA will have some advance notice of what to expect. Where the agriculture has been insufficient from the start, exceptional

distress results from enemy occupation, as was the case with Greece.

Greece is a small country where the soil is poor and overpopulation places great pressure on the land. Greece was a long way from raising enough food for its own needs even before the war, and it had accumulated no large stockpiles to help meet the dreadful emergencies it was to face. Starvation was more than a threat when, in August 1942, neutral relief agencies began monthly shipments of wheat, dried peas and beans, soup powder, fish products, and some rice and sugar from Canada and the United States.

Starvation Averted

Italy was not much better off when the allies entered. It, too, had large urban populations to be fed when supply lines were destroyed and distribution broke down. Grain shipments from the North were blocked, docks and railroads were blown up by the retreating Nazis. Moreover political problems peculiar to Italy have greatly complicated the actual administrative difficulties of distributing food supplies fairly. The military authorities had to depend on local help in doing the job, but many Italians after years of fascism did not know whether the Allies were there to stay and so they could not be depended upon to enforce the rules of rationing and price control.

One observer back from Naples said that trying to control prices and rationing of food was like hitching two kittens to the front fenders of an automobile mired to the hub in black gumbo. The answer, of course, was to send in more food, and as panic and the fear of starva-

tion lessened, lawlessness declined. The situation, although still far from perfect, is at least improving as order is restored and supply lines are opened.

Generally speaking, UNRRA will not be responsible for supplies to ex-enemy areas. An exception is to be made in Italy, where it is authorized to expend not to exceed \$50,000,000 for supplemental programs of assistance to civilians. This was authorized at the second session of the UNRRA Council at its September meeting in Montreal. The supplemental food program, over and above that which the military supplies, will be to assist children and nursing and expectant mothers, in particular.

City vs. Country

Probably we can expect conditions similar to those found in parts of Italy in each large industrial city where the destruction of railroads and harbors has temporarily kept food supplies from moving in from agricultural areas. When our troops got into Normandy everyone was surprised at the abundance of food in the villages and countryside. In Paris, however, there was scarcity and again the authorities were up

Spur

One thorn of experience is worth a whole wilderness of warning.

—LOWELL

against the black market with its attendant evil of food for the well-off and famine for the poor. In the first days of liberation the Military moved in 1,500 tons of food daily by airplane and truck. Paris is still living on a day-to-day basis, but the outlook brightens as railroads are repaired and transportation facilities are increased. Looking farther ahead, France's position on food should improve rather rapidly since it will be able to import some food and much needed fertilizer from its North African and other colonies.

Job of UNRRA

The task of food relief must always be measured in terms of what conditions were in peacetime. UNRRA's job is emergency relief. It was organized to help the people in liberated areas over the first high peaks of distress, so that they may be strengthened enough to help themselves. UNRRA is not expected to go in for long-term reconstruction, nor can it correct ills and weaknesses inherent in the agricultural and social system long before the war started.

Thus, in fixing our sights we must take into account our own budgetary limitations. We must keep firmly in mind the global picture with regard to food before the war multiplied hunger and want.

Shadow of Famine

Never since the beginning of history has there been enough food. The Bible is full of stories of famine. The people of China and India have always lived in its shadow. It has been estimated that two-thirds of the working people in the world are producers of food.

Since the results have never been adequate, this figure is hard to believe until we consider that about half the people in the world live in China, India, and the other Asiatic countries. In many parts of India the diet standard is so low that the life expectancy is only 30 years.

Now let us look at the Balkans, in the light of some revealing figures published by the Royal Institute of International Affairs in London. European experts have calculated that an area raising grain, plus some potatoes and livestock, is overpopulated if more than from 25 to 28 persons live on each 100 acres of land. This figure was based on production averages for wheat, rye, maize, and potatoes in the Balkans for the 1933-37 period. Here are the agrarian population figures per 100 acres of farmland: Poland 31, Czechoslovakia 24, Hungary 24, Roumania 30, Yugoslavia 42, Bulgaria 33, and Greece 48.

Contrast these figures with 6 agrarians per 100 acres for Great Britain; and 18 only for Germany—in spite of all its cries for *Lebensraum*. Moreover, Great Britain and Germany surpassed the Balkan countries in production of the four commodities listed. The Balkans were loaded with an excess agrarian population of 18 million people, and this inevitably meant a low standard of living even in normal times.

Relief Figures

These figures have a direct bearing on the problem of food for relief. After careful calculation, the member nations of UNRRA have agreed to a relief standard of from 2,000 to 2,650 calories a day. That would seem scanty fare to a farm

family in our Midwest; it is not quite so scanty to the peasant of Eastern Europe who has had to content himself for generations with a meager and sometimes painfully inadequate diet. Because of shortages of fats and sugar the relief diet will be restricted; but it will seek to contain an adequate supply of calories and there will probably be marked improvement in the quality of diet to which Eastern Europe has been forced to adjust during the war, especially in Poland and Greece where suffering has been so great.

Sources of Relief

In the United States the impact of relief needs on available food supplies is difficult to appraise. The period of UNRRA's operations in a given territory should not be longer than 9 to 12 months. This should come at a time when requirements for the military and for Lend-Lease are dropping off sharply.

Perhaps one-fourth of relief food

requirements will take the form of wheat. Wheat is in abundant supply in this country, Canada, Australia, and the Argentine. The thought that all the surpluses which this country can produce will be needed for relief cannot be supported. The relief quantity will be substantial, with probably one-half of it going to nations which intend to pay for their commodities. The impact of the relief needs, coming at a time of reduction in the needs of the military and Lend-Lease may be further softened if there is a decline in civilian food buying when the peak of war work passes.

Strong Support

The relief problem will not be an easy one. Among its most significant features will be whether international teamwork, tried in this field on this scale for the first time, can succeed. The strong support now provided by many nations predicts that it can.

Foundation Stone

The principle of sovereign equality of all peace-loving states, irrespective of size and strength, as partners in a future system of general security will be the foundation stone upon which the future international organization will be constructed.

—CORDELL HULL

LONG-TIME FOREIGN TRADE:

Agricultural Prospects

By JAMES G. MADDUX. *Prognostications here are naturally hedged with conditions and assumptions but they leave us with a few salty truths to ponder.*



WHAT are the prospects for an expanded export market for agricultural products in the post-war years? Is the farmer in this country likely to find a strong demand for his commodities in foreign nations? Or must he face a post-war world in which few farm products can be sold abroad? The answers to these questions cannot be given with certainty, but there are some points in connection with them about which we can be fairly definite.

For instance, it seems apparent that if we are to sell large quantities of agricultural products abroad, the people of other nations must not only want to buy them, but also be able to buy them from us as cheaply as they can from producers in other countries; and they must have the money with which to pay for them, unless we are willing to give them away.

In general, there can be little doubt about foreign people continuing to need many of our farm products. But there is a serious question as to whether they can buy them from us as cheaply as from other nations, and whether they will have the dollars to pay for them.

Both of these problems—the price at which we are willing to sell and

the supply of dollars the foreigner will have with which he can buy our products—are largely within our own control. We cannot only determine our own selling prices, but we can do much in determining the supply of dollars the foreign buyers will have. One important way in which we can increase the foreigner's supply of dollars is for us to buy more of his commodities. Some of the other ways are mentioned later. The important thing for us in the United States to recognize is that what we do ourselves will be the major factor determining whether we shall have large or small export markets for our commodities.

Before indicating some of the things we might do to expand our export trade in the post-war years, we take a look at some of the trends and relationships of the past.

One relationship of the past is clear. *When this country is prosperous, our volume of foreign trade is high.* Both our imports and exports have been closely related to the degree of prosperity here at home. For instance, our merchandise imports and exports were cut almost in half by the depression of 1920 to 1922. They picked up some during the remainder of the 1920's,

and reached new high peaks in 1929. With the onslaught of the depression in the early 1930's, our imports and exports again took a tumble, but as the situation in this country improved, our foreign trade became larger. Both imports and exports reached their highest points, during the decade of the thirties, in the year 1937, which was the most prosperous year of that decade. With the coming of the second World War, our exports increased rapidly. Imports have also risen, but not so greatly as exports.

When Prosperous

What is the explanation of this past relationship? Why is it that our volume of imports and exports is high when our domestic economy is prosperous? Only a few of the major points can be mentioned.

When our economy is operating at high levels of production, we buy from foreigners large quantities of raw materials to be processed, manufactured, and distributed in this country; we pay foreign owners of ships substantial freight bills for hauling our imports and exports; many of our citizens travel abroad; and our bankers lend money to foreign firms and governments. All of these activities supply people in other countries with dollars. These dollars, in turn, create an effective foreign demand for our export products.

When Depressed

On the other hand, when our level of economic activity is low in this country, we reduce our purchases from foreigners, we have lower freight bills to pay to foreign ship

owners, we travel abroad less, and we reduce or eliminate new foreign loans. All of this has the effect of reducing the supply of dollars in the hands of foreigners. They have to have dollars in order to buy our exports, and if we lower the amount of dollars we pay them for their goods and services, they are forced to reduce their purchases of our goods and services.

Two-way Trade

Foreign trade, just like domestic trade, is a two-way proposition. A farmer can't sell eggs or butter or wheat or cotton to a city man in this country unless the city man has money with which to buy. Neither can we sell our farm or industrial products to people in other countries unless they have the money with which to buy. They can't manufacture our money. To get it, they must trade us something, either goods or services, for it.

When we are prosperous we buy more from abroad than when we are not prosperous and thus send more dollars there. This obvious fact alone suggests how very important it may be in the post-war years for us to maintain a high level of domestic activity in this country, so we can have a large volume of export trade.

Another relationship of the past is also apparent, and it is of special significance to farmers. *During the whole inter-war period there was a generally downward trend in agricultural exports.* In 1920, even though our total exports increased, our agricultural exports started a decline which continued with only minor recoveries clear through the next two decades. Just before our

entry into the present war the annual value of our agricultural exports was less than it was at the beginning of this century. During the 5-year period 1925-29, the annual value of agricultural exports was equivalent to 38 percent of the average value of all exports. Ten years later, by 1935-39, it had declined to 26 percent. Clearly, the farmer in the United States was rapidly losing his foreign market.

Why was this true? Why should the farmer lose his foreign market to a much greater extent than the industrialist during the two decades following the first World War? A few of the important reasons can be outlined here.

For many years our country has been developing more and more as an industrial country. An increasing proportion of the goods we have to sell, both at home and abroad, are nonagricultural. But this is not the whole story. During much of the inter-war period, and particularly in the decade of the 1930's, some of our farm prices were not really at competitive levels in world markets. Foreign buyers often found that they could buy farm products from producers in other countries cheaper than they could buy them here.

Contrasts

Closely associated with this price situation is another condition that may have been even more influential. Our imports from foreign countries were small, particularly in the decade of the 1930's, so foreigners had just that many fewer dollars with which to buy our products. With their limited supply of dollars, they found it more advan-

tageous to buy our farm machinery, automobiles, typewriters, electrical equipment, machine tools, and similar manufactured products. In many lines of industrial production we make the best products, for sale at the lowest prices, that can be found anywhere in the world. In other words, the foreigner cannot find a cheaper substitute for our highly standardized, mass-produced industrial products. He can buy farm commodities from several other countries which, in general, are just as good as ours.

Then, too, certain countries, particularly Germany and Italy, chose to produce more of their agricultural products at home even if the cost was greater than that at which they could buy them from abroad. England gave certain trade preferences to its Dominions which put their farmers in a superior position to ours in the export market.

Paramount

Although many other factors may have operated, the effects of our tariff increases and our severe depression of the 1930's in reducing our imports from abroad, and thus reducing the foreigner's supply of dollars, were probably paramount. With this short supply of dollars, our foreign customers bought our high quality, low-cost manufactured products, and turned to countries other than the United States for agricultural products.

What to Expect?

This review of the past situation affords a basis for discussing what the future may hold in store. As soon as ocean shipping becomes

available, it is reasonable to expect that the foreign demand for our agricultural products will be fairly strong for 2 or 3 years, provided our prices are in line with those of our competitors. Foreigners have built up substantial supplies of dollars in this country, during the war, with which they can buy our goods. Although there is little precise information about how badly war-torn Europe is in need of wheat, cotton, pork, lard, and fruits, it is probable that the foreign demand, plus the relief supplies provided by UNRRA, will provide fairly substantial outlets for farm products from the United States. But how about the long-time outlook? After the war and transition periods are over, what can we expect?

If

If we have full employment in this country, and if we put our prices down to competitive world levels—two big and important ifs—it would be reasonable to estimate from past relationships that our total merchandise exports in the post-war years might average approximately 6 billion dollars per year. This compares with annual average exports of 4.8 billion dollars in 1925-29, and about 3 billion dollars in 1935-39. If the downward trend in the proportion of agricultural exports should continue, and there are some reasons for believing that it will, about one-fifth of our total exports, or about 1¼ billion dollars worth, might be expected to be agricultural products. This figure of 1¼ billion dollars compares with annual average agricultural exports of about 1.9 billion dollars in the 1925-29 period,

and approximately three-fourths of a billion per year during 1935-39.

If our agricultural exports approximate this estimate of a billion dollars annually, we might expect to sell 3.5 to 4.5 million bales of cotton, 75 to 100 million bushels of wheat, 450 to 550 million pounds of tobacco, 3 to 4 billion pounds of fruit, 600 to 700 million pounds of fats and oils (mainly lard), and fairly substantial quantities of several other farm products.

Compare

It is probable that the bill of goods making up the total volume of agricultural exports would represent the production of roughly 16 to 18 million acres of average cropland. This is equivalent to the cropland on about 300,000 farms. It compares with approximately 30 to 35 million acres used to produce commercial and lend-lease exports during the last year or two.

But—

That our volume of agricultural exports will approximate a billion dollars a year in the post-war period is by no means assured. If we do not maintain full employment in this country, or if our farm products are not priced at levels competitive with those of other countries such a volume of exports could not be expected. Exports could easily slip back to the depression levels of the 1930's.

But it would be reasonable to expect that both our total exports and our agricultural exports would be substantially larger than these projections, if we maintain full em-

ployment at home and collaborate with the other nations of the world in truly significant international programs. These programs would have to have potent aims—to reduce tariffs and trade barriers; to stabilize currencies; to lend capital to the undeveloped countries of the world; to organize the political, military, economic, and cultural relations among nations so as to prevent the constant threat and fear of war; and to provide, through international agreement, for the distribution of temporary market surpluses of food and clothing to the poverty-stricken peoples of Asia at prices lower than those prevailing in world markets. If most or all of these things are done, our farmers will gain in commerce.

As Never Before

To a much greater extent than ever before in the history of the world, the determination of the future of our foreign trade is in our own hands. We can draw into our national shell, reduce our production and our level of living, set our

own price levels, and trade with other countries as little as possible. At the other extreme, through export subsidies, exchange control, bilateral commodity agreements, governmental barter, rigorously conditioned foreign loans, and the effective use of "diplomacy backed up by armed force," we can set out to undercut all competitors and take a lion's share of the market without regard to the effects on other nations. The former alternative we followed to a considerable extent during the inter-war period. The latter is the course pursued by Germany. They both contributed to the present war.

A third choice which is freely open to us is to produce efficiently, sell in an open and competitive way, and lend our financial and political strength, in full cooperation and collaboration, toward expanding total world trade and production. Along this route lies the possibility of prolonged peace and rising levels of living and satisfaction here at home and among our foreign customers.

Old Proverbs for New Soldiers

Every land is his native land to a brave man.

To a lucky man every land is his fatherland.



Books

DEMOCRACY REBORN. By *HENRY A. WALLACE*. Selected from public papers and edited, with an introduction and notes, by *RUSSELL LORD*. Reynal and Hitchcock. New York. 280 pages.

RUSSELL LORD here presents his own selections from the speeches and writings of Henry A. Wallace, from March 1933 to May 1944. It is a complete record of the Vice President's position on many important issues of the time. The work was done on compiler's initiative, and although Mr. Wallace cooperated in the production and answered all questions, this is not an "authorized work." Mr. Lord says, with a frankness characteristic of both the Vice President and himself, that the book contains only what they call "full-baked" addresses and statements found in the numerous manuscripts both complete and fragmentary from which this volume was drawn.

When Mr. Wallace came from Iowa to become Secretary of Agriculture on March 4, 1933, he had had little administrative experience. He was soon recognized as a capable administrator who combined an ability to carry on these arduous duties with a talent for popular interpretation. Having been an editor, he took on naturally the task of meeting the press and there soon poured forth from his office a large volume of versatile writing and speaking that caught the attention of people everywhere. Henry A. Wallace has thus become a notable educator, and has made a

profound impression upon the American people—including many who do not like most of his ideas.

MR. WALLACE was not only a Secretary of Agriculture who recognized the importance of an educational basis for good administration. He was also a member of a Cabinet of a liberal crisis government that engaged in wide experimentation and social planning. Thus social action became a far more important function of the Department of Agriculture than it had ever been before: social action on a grand scale took its place along with the older functions of research, regulation, and education.

Mr. Wallace's effectiveness as an educator of adults may be explained in large part by his zeal in social and economic action. Over and over again the papers in this book have to do with a particular program that is being launched or modified or defended. Mr. Lord supplies crisp text between manuscripts that gives the setting for the articles and speeches and much additional information. He records, for example, that the Secretary of Agriculture between March 4, 1933, and New Year's, 1934, made 32 scheduled public pronouncements. The first address of his public career was a radio talk on March 10, 1933, when

he announced the main outlines of the agricultural adjustment program which had been worked out in a special conference.

FIRST in the book come several declarations made by the Vice President in the early months of 1944—*What America Wants, What America Can Have, America Can Get It*. Then the other papers are given in chronological order. In all, there are 55 headings in the table of contents. Under some of these headings in the text are numerous excerpts from various writings, as well as the full texts of the more important statements.

One finds, of course, the speech given in 1942 before the Free World Association in New York—*The Price of Free World Victory*—with its exposition of the people's revolution and the affirmation of the century of the common man. "The people are on the march toward even fuller freedom than the most fortunate peoples of the earth have hitherto enjoyed." Also well represented are Mr. Wallace's ringing defenses of the national farm policy and program, for example, *The Cotton Plow-Up*, and *Pigs and Pig Iron*: these reveal Mr. Wallace's ability, as a campaigner.

THESE WRITINGS are the work of a man who can draw on treasure houses of knowledge. There is a talk before a seminar in economics at Ames, several expositions of the idea of an Ever-Normal Granary, reflections on capitalism, technology, corporations, statesmanship, and re-

ligion. Mr. Wallace knows more, probably much more, about the Hebrew prophets than do most clergymen. He can exhort, as well as discuss economics or genetics.

In these pages Mr. Wallace is a teacher of land conservation, wherever found, and an advocate of cultural and economic collaboration with other nations. He is an anti-fascist pamphleteer, and a careful student of the Papal Encyclicals. He is a critical student of social institutions, but he is also engaged in a search for what is in the heart of man. One of the important speeches is on books of power.

THIS IMPRESSIVE production varies, of course, in literary quality. Mr. Wallace has had to work too fast to round all of the papers out or to polish them all off. But at times a rough style can be an asset. Mr. Wallace is a writer of power, a statesman who deals with great thoughts and who has skill in communicating them. Finally, he is a writer who has great courage.

Russell Lord's own skill as writer and editor considerably enhances the value of the book. He contributes an introduction that tells much about the Wallaces of Iowa, and much about "Young Henry's" entire life and work. He tells us a full-length biography of the Wallaces is coming later. He writes this introduction from the University of Georgia. He has written from various places and at various times but always he has written about agriculture and its people.

—Benson Y. Landis

Like master, like land.

THE ECONOMICS OF DEMOBILIZATION. By E. JAY HOWENSTINE, Jr.
Introduction by Dr. ALVIN H. HANSEN. American Council on
Public Affairs. Washington, D. C. 336 pages. (Bibliography.)

HERE AND THERE attempts have been made to bring to the fore the demobilization experience of World War I. Most of these studies deal with specific fields and they have not had general circulation. Howenstine's book on *The Economics of Demobilization* is therefore welcome. It covers a wide range of economic problems faced during World War I and the steps taken to shift from war to peace production; it draws contrasts between the situation in 1944 and that of 1918, and lays down a blueprint for demobilization, that we may avoid the pattern of economic events that has characterized our economy after each of our major wars—in 1812, 1864, and 1918—a pattern that consisted of a brief period of hesitation and some unemployment, followed by a speculative boom and then a major depression.

If November 1944 is taken as equivalent to November 1918, there is now a great deal more planning than we had then. The post-war committees of the House and Senate, and the attention that has been given to reconversion problems by the WPB, by OPA, by the Armed Services, by the nonwar agencies, and the present Office of War Mobilization and Reconversion represent distinct gains in foresight. This does not mean that the battle for a smooth reconversion from high-level war production employment and income to the equivalent peacetime levels has been won. Bearing in mind the unanswered questions in all reconversion and post-war discussions, it is enlightening to read

Howenstine's brief chapters pointing out the reliance placed by the 1918-19 Administration on "Natural Forces" (today, private enterprise), on the conflicting views of the Federal Reserve Board and the Treasury on fiscal policy; on the conflicting views as to wage and price policies held within the Administration, and on the general lack of coordination of the many parts of the reconversion process.

PARALLELS are striking. They should be more generally known by members of Congress, by Government agencies, and the many outside of Washington. Howenstine lists several 1918-19 readjustment inadequacies. We had then no adequate appropriation for public works as part assurance of employment, no provisions for an automatic reduction of inflated prices and living costs, no full appreciation of the utility of the United States Employment Service, no way of reconciling numerous conflicting policies. These conflicts included:

(1) Rediscounting policy of the Federal Reserve Board making for expansion and speculation while the Treasury was promoting a savings program.

(2) Speedy removal of restrictions of farm output and efforts to deal with restrictive practices in other industries.

(3) The antimonopoly policy of President Wilson and the Department of Justice while the Department of Commerce and its Industrial Policy Committee were pressing for market agreements.

Limits

The future is a world limited by ourselves.

—MAETERLINCK

(4) The policy of the Department of Commerce and its Industrial Policy Committee to bring prices down immediately while the Department of Labor and its counsel of defense held to the view that high prices were permanent.

(5) Confused thinking and varied counsel in regard to ways of attaining maximum employment.

ONE BASIC DIFFERENCE between 1944 and 1918 fails to emerge in this book. It is that 1944-45 may mark not the end of the war, but concentration on the Pacific phase. The interval between victory in Europe and victory in the Pacific could mean a more thoroughly planned reconversion process than that of 1918-19.

The blueprint for reconversion that Howenstine recommends is definitely along right lines, but in some respects inadequate. He urges a strong central directive agency of the Federal Government to integrate the policies of all Government agencies, and a set of items that are now fairly standard—a speedy demobilization program based on military and not domestic economic considerations, the maintenance of wartime taxes during the first post-war year and later modifications depending on the volume of con-

sumers' spending and price changes, use of surplus commodities to balance effective demand and the available goods, several ways of disposing of Government-owned plants including sale or lease to new private management, a reorganized and extended Social Security program, full participation in foreign relief, reconstruction, and investment, and brief retention of some price controls.

The relative importance of these items is not indicated. I am inclined to think that the first, a coordinating agency, is the most important and that the last, which implies assuring ourselves against either inflation or deflation after the war, is the second; and that this blueprint deals inadequately with prices of farm products and of raw materials, the most flexible and therefore most dangerous part of the reconversion economy.

Howenstine fears a certain amount of post-war unemployment "more than temporary in nature," and I doubt that his blueprint is adequate to meet it. He too readily accepts a pre-war notion that a flexible compensatory Government-spending program in Public Works has a vital role to play here. The 6-year program of public works of the late Public Works Reserve and The National Resources Planning Board is now recognized as neither large enough nor flexible enough to meet this need. All the information available now shows that public spending in the form of public works is too sluggish a program to play a strategic role in demobilization, if demobilization takes place rapidly in 1945-46 as is generally expected.

—Louis H. Bean

CHANNELING RESEARCH INTO EDUCATION. Prepared for the Committee on Southern Regional Studies and Education. By JOHN E. IVEY, Jr. American Council on Education. Washington, D. C. 187 pages.

THIS MODEST VOLUME records the beginnings of a movement of very great significance to all who are concerned either with research or with education—a movement which has the dual purpose, on the one hand, of obtaining the translation of research findings into readily understandable everyday language and, on the other, of facilitating their absorption into the educational process.

For many years the southern United States have been recognized as a region which, measured by objective standards of social and economic progress, stands near the bottom of the national scale. Yet its natural and human resources are ample to support a high level of living. Research materials on southern resources and the ways in which they may be utilized for the improvement of living are plentiful, but almost nothing has been done toward interpreting this knowledge in terms of its significance for everyday life and channeling it to the people.

Such considerations as these led the American Council on Education in April 1943 to appoint a Committee on Southern Regional Studies and Education, whose membership includes both research leaders and school leaders, to search for ways and means of tapping reservoirs of research studies for significant instructional materials. Though this particular study relates to the Southern States, the problem with which it deals is national, not regional, in scope: it is how the total educational process may be

used to bring about man's wholesome relationship to his environment and his sane and skillful use of resources for permanent social well-being. This educational emphasis inevitably will require the continuous flow of research findings into community knowledge, in order that they may provide the motivation and the factual basis for informed action.

The Committee, under Homer P. Rainey, Chairman, planned its attack upon the problem in three phases: first, an exploration of problems and resources; second, a work-conference of educators and research specialists; and, finally, further research along lines indicated by the conference, and the publication of a summary giving the findings of the entire 7-months' study.

Channeling Research into Education is the Committee's report. It is not in the usual sense the work of an individual, but rather, the product of group effort. Its form and substance are derived from innumerable conferences with representatives of research and educational agencies and from proceedings of the 1943 Gatlinburg Work-Conference as well as from the criticisms and suggestions of the Committee members. Thus it is in itself an example of the educational process which the Committee seeks to stimulate and strengthen. It represents the cooperation of research leaders and educational leaders in the study of the problem; and participation in planning by the workers who will be responsible for carrying out the plans. The way the study was

made, the author observes, the group experience involved is perhaps more important than the monograph which resulted.

The study first considers the broad problem of resource education for the South, concluding that "if southern education is to take more than an academic interest in regional development, it must take vigorous steps to prepare an educational program which will combine resource study with the process of equipping students to participate more effectively in community, regional, and national life. A traditional educational approach cloaked over resource study will not produce a resource education that can make a maximum contribution to regional development . . .

"One fact stands out: to use effectively the results of regional research, embodied in new educational materials, southern education must search for a new orientation. The resources and problems of the region are the starting points. The needs of the people clearly indicate the direction."

The major portion of the report, Part II, surveys the problems involved in the translation of research facts into form and content adapted to educational needs, and it should be noted particularly that the term "research translation" is used here

to include distribution and use, not production alone. There are chapters on educational materials now available for southern resource education; pioneer efforts in research translation in Arkansas, Kentucky, Virginia, Georgia, and the Tennessee Valley region; and on the different requirements to obtain effective translation for school and for non-school agencies. A generous bibliography of selected source materials is appended.

It is obvious to the attentive reader that *Channeling Research into Education* more nearly marks the beginning than the end of the Committee's undertaking, that its work is still preliminary. In the late summer of 1944, since publication of its report, the Committee sponsored a second work-conference at Gatlinburg, when representatives of regional and State agencies of research and education spent a week in discussions and group work on plans for a number of special projects in research translation and resource education. Research workers and educational workers alike look forward to the Committee's continuing leadership in bringing about the translation of research findings into useful materials for southern resource education.

—Mary U. Rothrock

*An enterprise, when fairly once begun
Should not be left till all that ought is won.*

—SHAKESPEARE

THE FOOD FRONT IN WORLD WAR I. By MAXCY ROBSON DICKSON.
American Council on Public Affairs. Washington, D. C. 194 pages.
Bibliography.

"WILL YOU have it said that little Karl in Germany, or little Marie in France, or little Lucia in Italy has a braver heart than you?"

"The Little German boy or girl when told he can have no bread says 'It is for Germany.' . . .

"You American boys and girls can say more than 'It is for America.'"

"It is for freedom, it is for liberty, it is for the whole world. We will gladly give up anything you ask. Our hearts are as brave as French hearts. They are as brave as English hearts, as brave as German hearts, as brave as Belgian hearts, as brave as Italian hearts."

The Food Front in World War I is a colorful account of the Food Administration's intensive propaganda and educational campaign designed to reach everyone including small children, as is shown by the above illustration taken from the book. This quotation also brings out the difference of emphasis in the food educational programs used during the two World Wars. The present emphasis is on good nutrition; in World War I stress was placed on self-sacrifice and on food conservation.

The special nutrition edition of the *Consumers' Guide* with its slogan, "Make America Strong by Making Americans Stronger" typified the new emphasis. This change in emphasis was in turn related to marked differences in the food supply as well as to the more advanced knowledge of nutrition and to the more extensive economic controls used during the present war.

Dr. Dickson has made a contribution in his lively description of

the propaganda techniques of the Food Administration as illustrated by such chapter headings as "Appeal to Babel," and "Dangerous Curves." The book would have been more helpful to students of administration, however, if the author had definitely limited his discussion to propaganda techniques. The introductory and concluding chapters deal more broadly with over-all activities of the Food Administration; this broader treatment seems indeed to be an afterthought.

Failure at times to distinguish clearly between the propaganda campaign and the regulatory activities of the Food Administration tends to give the reader a misleading evaluation of its total program. In relation to this point it is not conclusive, until one reaches the bibliographical section, that the study here reported is based almost entirely upon material in the National Archives. A broader study would require a check of the material in the Hoover Library on War, Revolution, and Peace; the Hearings on the Emergency Price Control Act of 1942 which included Herbert Hoover's testimony on food administration; Ed. Lasater's charges after resigning as Chief of the Department of Livestock and Animal Food Products of the Food Administration, and other sources.

This description of techniques used for securing Nation-wide participation in the food programs of the last war emergency is timely and interesting reading. It represents useful information on the propaganda front of World War I.

—Gladys Baker

THE WAR AND AMERICAN AGRICULTURE. By JOHN D. BLACK and CHARLES A. GIBBONS. (Review of Economic Statistics, v. 26, No. 1, February 1944. Harvard University Press. Cambridge, Mass. 55 pages.)

THIS STUDY which is in part a continuation of the senior author's *Parity, Parity, Parity*, published in 1942, is both a graphic summary and a thoughtful discussion of the economic developments during the war as they affect agriculture and labor. Perhaps the title "The Relative Position of Agriculture and Labor as Influenced by the War" would have been more descriptive of a major part of the contents of this monograph than the one actually selected by the authors.

The study is developed from the three parity approaches—agriculture, labor, and capital—but the first two are more fully developed than the last. The reader will find particularly valuable the comparisons of economic progress of agriculture and labor as measured from different base periods. The merits of the 1925-29 base period over either 1935-39 or 1909-14 are clearly set forth and, in the opinion of this reviewer, are deserving of further consideration. The value of these comparisons is heightened by the use of data giving a perspective over a long historical period.

The statement that "Since January 1, 1942, farmers * * * increased their bank deposits by perhaps as much as four billion dollars" (p. 12) appears to be an overstatement in the light of more recent computations. It seems more likely that

such increase was not greatly in excess of 2.5 billions. No mention is made of farmers' savings in form of currency. Although difficult of measurement, their importance in the aggregate of farmer savings is such that the picture is incomplete with their omission.

DESCRIPTIVE sections are followed by sections dealing with control measures, the price outlook, and production outlook. The first of these is a summary of the various measures adopted in the price-control program. It affords the reader a concise review and appraisal of these important wartime measures.

Two concluding sections, dealing with the post-war price and production prospects, appear more optimistic than current information on impending problems of reconversion would indicate as justifiable. Perhaps the closeness of these impending events—bringing an awareness of the grave problems involved in post-war national and international policies—engenders more caution than would have been present when the authors completed their study.

As an over-all appraisal, one must conclude that this study is a valuable addition to the history and interpretation of wartime economic developments.

—Norman J. Wall

Dumbarton Oaks

The task of planning the great design of security and peace has been well begun. It now remains for the Nations to complete the structure in a spirit of constructive purpose and mutual confidence.

—FRANKLIN D. ROOSEVELT

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